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SEQUENCE LISTING

<110> University of Maryland Biotechnology Institute
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<120> VACCINES AGAINST HIV-1 PROTEIN TO GENERATE NEUTRALIZING
ANTIBODIES

<130> 4115-194

<140> Not yet assigned

<141> 2005-06-16

<150> US 60/434,368

<151> 2002-12-18

<160> 51

<170> PatentIn version 3.3

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<212> PRT

<213> Human immunodeficiency virus type 1

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<222> (21)..(21)

<223> X may be any amino acid, preferably A or P

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Gln Pro Lys Thr Xaa
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Gln Pro Lys Thr Ala
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ccc 63

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Ser Tyr Gly Ser Lys Lys Arg Arg Gln Arg Arg Arg Pro Pro Gln
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Gln Pro Lys Thr
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Gln Pro Arg Thr
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Gln Pro Arg Thr
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Gln Pro Lys Thr
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Gln Pro Lys Thr
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Met Pro Trp Ser
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Phe His Cys Gln
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Ser Gln Pro Arg Thr Ala Cys Thr Ser Cys Tyr Cys Lys Lys Cys Cys
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Phe His Cys Gln
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Ser Gln Pro Arg Thr Ala Cys Asn Asn Cys Tyr Cys Lys Lys Cys Cys
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Phe His Cys Tyr
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Ser Gln Pro Lys Thr Ala Cys Asn Lys Cys Tyr Cys Lys Asn Cys Ser
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Tyr His Cys Leu
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Ser Gln Pro Lys Thr Ala Cys Asn Thr Cys Tyr Cys Lys Lys Cys Cys
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Tyr His Cys Gln
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<400> 27

Thr Cys Cys Gln Lys Asn Lys Cys Pro Thr Lys His Gln Cys Cys Phe
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Ser Ala Tyr Cys
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Cys Phe His Cys Gln Val Cys Phe Met Thr Lys Ala Leu Gly Ile Ser
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Tyr Gly Arg Lys
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Cys Phe His Cys Gln Val Cys Phe Ile Thr Lys Gly Leu Gly Ile Ser

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Tyr Gly Ser Lys
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Tyr Gly Arg Lys
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Tyr Gly Arg Lys
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Tyr Gly Arg Lys
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Gln Thr Ile Lys Cys Met Gly Arg Phe His Leu Phe Gly Cys Ala Tyr
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Cys Val Lys Ser
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Ser Gln Thr His
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Asn Gln Thr His
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Ser Glu Asp His
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Asn Gly Asp His
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Gln Lys Arg His Arg Gln His Thr Gly Arg Ala Gln Tyr Arg Ser Arg
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Ser Lys Arg Asn
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 1 5 10 15

Ser Arg Gly Asp
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Cys Asn Gln Thr His Gln Val Ser Leu Ser Lys Gln Pro Ser Ser Gln
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Pro Arg Gly Asp
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Asp Ser Gln Thr His Gln Ala Ser Leu Ser Lys Gln Pro Ala Ser Gln
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Ser Arg Gly Asp
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Ser Ser Glu Asp His Gln Asn Leu Ile Pro Lys Gln Pro Leu Pro Arg
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Thr Gln Gly Asp

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Ser	Asn	Gly	Asp	His	Gln	Asn	Pro	Ile	Ser	Lys	Gln	Pro	Leu	Pro	Gln
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Thr Arg Gly Asp
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His	Ser	Ser	Asp	Thr	Leu	Thr	Gly	Gln	Ser	Pro	Arg	Ser	Ala	Gln	Ser
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Asn Gln Lys Gln
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Gln	Ser	Arg	Gly	Asp	Pro	Thr	Gly	Pro	Lys	Glu	Ser	Lys	Lys	Lys	Val
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Glu Arg Glu Thr
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Gln Pro Arg Gly Asp Pro Thr Gly Pro Lys Glu Ser Lys Lys Lys Val
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Glu Arg Glu Thr
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Glu Arg Glu Thr
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Arg Thr Gln Gly Asp Pro Thr Gly Ser Glu Glu Ser Lys Lys Lys Val
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Glu Ser Lys Thr
20

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Gln Thr Arg Gly Asp Pro Thr Gly Ser Lys Glu Ser Lys Lys Glu Val
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Glu Ser Lys Thr
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Gln	Pro	Glu	Val
			20